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EXAMINER

RUBIN, BLAKE J

ART UNIT

PAPER NUMBER

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/552,230	Applicant(s) FRICKE ET AL.	
	Examiner BLAKE RUBIN	Art Unit 2157	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10/6/2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/6/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is a response to communications filed October 6, 2005.
2. Claims 1-12 have been cancelled. Claims 13-36 have been added, and are currently pending in this application.
3. This application is a national stage entry of PCT/GB04/01384, filed April 1, 2004, which further claims foreign priority to United Kingdom Application No. 0308121.3, filed April 9, 2003.

Specification

4. The disclosure is objected to because the reference to "US Patent publication 0028313" on page 2, line 5, is not a valid publication number. The examiner suggests amending line to read, "2003/0028313". Appropriate correction is required.

Claim Objections

5. Numerous claims recite the limitation, "the plurality of devices":
 - a. Claims 13, 21, and 29: line 3.
 - b. Claims 14, 22, and 30: line 3.
 - c. Claims 15, 23, and 31: line 5.
 - d. Claims 18, 26, and 34: line 4.
 - e. Claim 20, 28, and 36: line 4

6. There is insufficient antecedent basis for these limitations in the claims. The examiner recommends amending the claims to recite, "the plurality of client devices." Appropriate correction is required.

7. Claims 16, 24, and 32 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The claims recite, "updating is performed with respect to the first device", which is expressly included in the independent claims 1, 21, and 29, from which they are based on, in line 13 which recites, "updating the comprising changing an existing data transfer period for the first device".

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claim 15, 23, and 31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

10. The term "efficiency" in claims 15, 23, and 31, line 5, is a relative term which renders the claim indefinite. The term "efficiency" is not defined by the claim, the

specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

12. Claims 13-17, 19, 21-25, 27, 29-33, and 35 are rejected under 35 U.S.C. 102(e) as being anticipated by Airy et al (U.S. Patent Application Publication No 2002/0142780, hereinafter Airy).

13. With respect to claim 13, Airy discloses a data logging method (paragraph [0031], lines 1-5) that utilizes a schedule (paragraph [0031], lines 5-8) of data transfer periods (paragraph [0031], lines 5-8, *time slots*) during which data is transferred from a plurality of client devices (paragraph [0031], lines 1-5, *multiple subscriber units*) to a server (paragraph [0031], lines 1-5, *base transceiver station*) over a network (paragraph [0036], lines 1-2), said method comprising for a first device of the plurality of devices (paragraph [0038], lines 2-5, *a particular subscriber unit*): obtaining, by the server, from

the first device a communication of an actual data transfer size of data actually stored in the first device (paragraph [0043], lines 7-9); estimating, by the server, a corresponding future data transfer size of the data actually stored in the first device (paragraph [0053], lines 1-3), said estimating being based on a historic data transfer size for data previously transferred from the first device to the server over the network (paragraph [0010], lines 20-22, *influences future schedules*; paragraph [0069], lines 4-7), said schedule currently being based on the historic data transfer size for the first device (paragraph [0010], lines 20-22, *influences future schedules*); conditionally updating the schedule by the server (paragraph [0057], lines 1-3, *subsequently generated transmission schedules*), said conditionally updating comprising actually updating the schedule if the server has determined that a difference exists between the actual data transfer size and the corresponding estimated future data transfer size (paragraph [0068], *updated to reflect the subscriber data queue included within the header of the most recently transmitted sub-protocol data unit*), said actually updating comprising changing an existing data transfer period for the first device in the schedule to a new data transfer period that is consistent with the actual data transfer size (paragraph [0068], *updated to reflect the subscriber data queue included within the header of the most recently transmitted sub-protocol data unit*); and receiving, by the server, a transmission over the network from the first device of the data actually stored in the first device (paragraph [0070]), said transmission being received in accordance with the schedule resulting from said conditionally updating (paragraph [0070]).

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14. With respect to claim 14, Airy discloses the method of claim 13, wherein the method further comprises performing said obtaining, estimating, conditionally updating, and receiving for each other device of the plurality of devices in a same manner as said obtaining, estimating, conditionally updating, and receiving has been performed for the first device (paragraph [0031], lines 5-9, *subscriber units*).

15. With respect to claim 15, Airy discloses the method of claim 13, wherein the method further comprises: forecasting a bandwidth of the network (paragraph [0072], lines 1-2, *up-link loading level*) by monitoring current download activity from data transfers between the network and the server (paragraph [0079], lines 1-7); and revising the schedule, based on the forecasted bandwidth (paragraph [0081], *vary depending upon the loading of the up-link*), to increase the schedule's efficiency for downloading data from the plurality of devices to the server (paragraph [0081], *vary depending upon the loading of the up-link*).

16. With respect to claim 16, Airy discloses the method of claim 13, wherein said actually updating is performed with respect to the first device (paragraph [0068], *updated to reflect the subscriber data queue included within the header of the most recently transmitted sub-protocol data unit*).

17. With respect to claim 17, Airy discloses the method of claim 16, wherein said actually updating does not change an order of the devices in the schedule (paragraph

[0068], *updated to reflect the subscriber data queue included within the header of the most recently transmitted sub-protocol data unit*).

18. With respect to claim 19, Airy discloses the method of claim 16, wherein if the actual data transfer size for the first device exceeds the corresponding future estimated data transfer size for the first device (paragraph [0050], lines 3-8) then said actually updating comprises having the new data transfer period for the first device begin at an earlier time in the schedule (paragraph [0050], lines 3-8, *additional data blocks can be conveyed to the base transceiver station without having to transmit additional RTS signals*).

19. With respect to claim 21, Airy discloses a computer program product comprising computer program instructions stored on a computer-readable storage medium, said computer readable program instructions, when loaded into a computer and executed, causes the computer to perform a method that utilizes a schedule (paragraph [0031], lines 5-8) of data transfer periods (paragraph [0031], lines 5-8, *time slots*) during which data is transferred from a plurality of client devices (paragraph [0031], lines 1-5, *multiple subscriber units*) to a server (paragraph [0031], lines 1-5, *base transceiver station*) over a network (paragraph [0036], lines 1-2), said method comprising for a first device of the plurality of devices (paragraph [0038], lines 2-5, *a particular subscriber unit*): obtaining, by the server, from the first device a communication of an actual data transfer size of data actually stored in the first device (paragraph [0043], lines 7-9); estimating, by the

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server, a corresponding future data transfer size of the data actually stored in the first device (paragraph [0053], lines 1-3), said estimating being based on a historic data transfer size for data previously transferred from the first device to the server over the network (paragraph [0010], lines 20-22, *influences future schedules*; paragraph [0069], lines 4-7), said schedule currently being based on the historic data transfer size for the first device (paragraph [0010], lines 20-22, *influences future schedules*); conditionally updating the schedule by the server (paragraph [0057], lines 1-3, *subsequently generated transmission schedules*), said conditionally updating comprising actually updating the schedule if the server has determined that a difference exists between the actual data transfer size and the corresponding estimated future data transfer size (paragraph [0068], *updated to reflect the subscriber data queue included within the header of the most recently transmitted sub-protocol data unit*), said actually updating comprising changing an existing data transfer period for the first device in the schedule to a new data transfer period that is consistent with the actual data transfer size (paragraph [0068], *updated to reflect the subscriber data queue included within the header of the most recently transmitted sub-protocol data unit*); and receiving, by the server, a transmission over the network from the first device of the data actually stored in the first device (paragraph [0070]), said transmission being received in accordance with the schedule resulting from said conditionally updating (paragraph [0070]).

20. With respect to claim 22, Airy discloses the computer program product of claim 21, wherein the method further comprises performing said obtaining, estimating,

conditionally updating, and receiving for each other device of the plurality of devices in a same manner as said obtaining, estimating, conditionally updating, and receiving has been performed for the first device (paragraph [0031], lines 5-9, *subscriber units*).

21. With respect to claim 23, Airy discloses the computer program product of claim 21, wherein the method further comprises: forecasting a bandwidth of the network (paragraph [0072], lines 1-2, *up-link loading level*) by monitoring current download activity from data transfers between the network and the server (paragraph [0079], lines 1-7); and revising the schedule, based on the forecasted bandwidth (paragraph [0081], *vary depending upon the loading of the up-link*), to increase the schedule's efficiency for downloading data from the plurality of devices to the server (paragraph [0081], *vary depending upon the loading of the up-link*).

22. With respect to claim 24, Airy discloses the computer program product of claim 21, wherein said actually updating is performed with respect to the first device (paragraph [0068], *updated to reflect the subscriber data queue included within the header of the most recently transmitted sub-protocol data unit*).

23. With respect to claim 25, Airy discloses the computer program product of claim 24, wherein said actually updating does not change an order of the devices in the schedule (paragraph [0068], *updated to reflect the subscriber data queue included within the header of the most recently transmitted sub-protocol data unit*).

24. With respect to claim 27, Airy discloses the computer program product of claim 24, wherein if the actual data transfer size for the first device exceeds the corresponding future estimated data transfer size for the first device (paragraph [0050], lines 3-8) then said actually updating comprises having the new data transfer period for the first device begin at an earlier time in the schedule (paragraph [0050], lines 3-8, *additional data blocks can be conveyed to the base transceiver station without having to transmit additional RTS signals*).

25. With respect to claim 29, Airy discloses a system comprising a computer and a computer-readable storage medium coupled to the computer, said computer-readable storage medium storing computer program instructions that when loaded into a computer and executed causes the computer to perform a method that utilizes a schedule (paragraph [0031], lines 5-8) of data transfer periods (paragraph [0031], lines 5-8, *time slots*) during which data is transferred from a plurality of client devices (paragraph [0031], lines 1-5, *multiple subscriber units*) to a server (paragraph [0031], lines 1-5, *base transceiver station*) over a network (paragraph [0036], lines 1-2), said method comprising for a first device of the plurality of devices (paragraph [0038], lines 2-5, *a particular subscriber unit*): obtaining, by the server, from the first device a communication of an actual data transfer size of data actually stored in the first device (paragraph [0043], lines 7-9); estimating, by the server, a corresponding future data transfer size of the data actually stored in the first device (paragraph [0053], lines 1-3),

said estimating being based on a historic data transfer size for data previously transferred from the first device to the server over the network (paragraph [0010], lines 20-22, *influences future schedules*; paragraph [0069], lines 4-7), said schedule currently being based on the historic data transfer size for the first device (paragraph [0010], lines 20-22, *influences future schedules*); conditionally updating the schedule by the server (paragraph [0057], lines 1-3, *subsequently generated transmission schedules*), said conditionally updating comprising actually updating the schedule if the server has determined that a difference exists between the actual data transfer size and the corresponding estimated future data transfer size (paragraph [0068], *updated to reflect the subscriber data queue included within the header of the most recently transmitted sub-protocol data unit*), said actually updating comprising changing an existing data transfer period for the first device in the schedule to a new data transfer period that is consistent with the actual data transfer size (paragraph [0068], *updated to reflect the subscriber data queue included within the header of the most recently transmitted sub-protocol data unit*); and receiving, by the server, a transmission over the network from the first device of the data actually stored in the first device (paragraph [0070]), said transmission being received in accordance with the schedule resulting from said conditionally updating (paragraph [0070]).

26. With respect to claim 30, Airy discloses the system of claim 29, wherein the method further comprises performing said obtaining, estimating, conditionally updating, and receiving for each other device of the plurality of devices in a same manner as said

obtaining, estimating, conditionally updating, and receiving has been performed for the first device (paragraph [0031], lines 5-9, *subscriber units*).

27. With respect to claim 31, Airy discloses the system of claim 29, wherein the method further comprises: forecasting a bandwidth of the network (paragraph [0072], lines 1-2, *up-link loading level*) by monitoring current download activity from data transfers between the network and the server (paragraph [0079], lines 1-7); and revising the schedule, based on the forecasted bandwidth (paragraph [0081], *vary depending upon the loading of the up-link*), to increase the schedule's efficiency for downloading data from the plurality of devices to the server (paragraph [0081], *vary depending upon the loading of the up-link*).

28. With respect to claim 32, Airy discloses the system of claim 29, wherein said actually updating is performed with respect to the first device (paragraph [0068], *updated to reflect the subscriber data queue included within the header of the most recently transmitted sub-protocol data unit*).

29. With respect to claim 33, Airy discloses the system of claim 32, wherein said actually updating does not change an order of the devices in the schedule (paragraph [0068], *updated to reflect the subscriber data queue included within the header of the most recently transmitted sub-protocol data unit*).

30. With respect to claim 35, Airy discloses the system of claim 32, wherein if the actual data transfer size for the first device exceeds the corresponding future estimated data transfer size for the first device (paragraph [0050], lines 3-8) then said actually updating comprises having the new data transfer period for the first device begin at an earlier time in the schedule (paragraph [0050], lines 3-8, *additional data blocks can be conveyed to the base transceiver station without having to transmit additional RTS signals*).

Claim Rejections - 35 USC § 103

31. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

32. Claims 18, 20, 26, 28, 34, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Airy, as applied to claims 16, 24, and 32 above, in view of Eshet et al (U.S. Patent No. 6,674,804, hereinafter Eshet).

33. With respect to claim 18, Airy discloses the method of claim 16, wherein if the actual data transfer size exceeds the corresponding estimated future data transfer size (paragraph [0050], lines 3-8), but does not disclose replacing transfer periods with transfer periods that are less than the duration of the new data transfer period.

34. However, Eshet discloses actually updating comprises replacing the existing data transfer period of the first device in the schedule (column 7, lines 64-67; column 8, lines 1-3) with a data transfer period of a second device of the plurality of devices (column 8, lines 3-7, *updating index i*), and wherein a duration of the data transfer period of the second device in the schedule is less than a duration of the new data transfer period of the first device (column 7, lines 62-67, where the i^{th} instance is incremented after the it is determined that the transfer period will be filled by the "second device").

35. It would have been obvious to one skilled in the art at the time the invention was made to combine the teachings of Airy with the teachings of Eshet. The motivation to combine being, to increase the efficiency of data transfers by allocating slots in a queue to data segments that effectively fit into the predetermined size of each queue slot.

36. With respect to claim 20, Airy discloses the method of claim 16, but does not disclose filling the free time slot when the data transfer size is less than estimated.

37. However, Eshet discloses if the actual data transfer size for the first device is less than the corresponding estimated transfer size for the first device so as to create a free time slot in the schedule (column 8, line 57) then said actually updating comprises filling the free time slot with a data transfer period of a second device of the plurality of devices (column 9, lines 20-26).

38. It would have been obvious to one skilled in the art at the time the invention was made to combine the teachings of Airy with the teachings of Eshet. The motivation to combine being, to increase the efficiency of data transfers by adding additional data

segments into a predetermined queue slot, whenever there is additional space in the slot.

39. With respect to claim 26, Airy discloses the computer program product of claim 24, wherein if the actual data transfer size exceeds the corresponding estimated future data transfer size (paragraph [0050], lines 3-8), but does not disclose replacing transfer periods with transfer periods that are less than the duration of the new data transfer period.

40. However, Eshet discloses actually updating comprises replacing the existing data transfer period of the first device in the schedule (column 7, lines 64-67; column 8, lines 1-3) with a data transfer period of a second device of the plurality of devices (column 8, lines 3-7, *updating index i*), and wherein a duration of the data transfer period of the second device in the schedule is less than a duration of the new data transfer period of the first device (column 7, lines 62-67, where the i^{th} instance is incremented after it is determined that the transfer period will be filled by the "second device").

41. It would have been obvious to one skilled in the art at the time the invention was made to combine the teachings of Airy with the teachings of Eshet. The motivation to combine being, to increase the efficiency of data transfers by allocating slots in a queue to data segments that effectively fit into the predetermined size of each queue slot.

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42. With respect to claim 28, Airy discloses the computer program product of claim 24, but does not disclose filling the free time slot when the data transfer size is less than estimated.

43. However, Eshet discloses if the actual data transfer size for the first device is less than the corresponding estimated transfer size for the first device so as to create a free time slot in the schedule (column 8, line 57) then said actually updating comprises filling the free time slot with a data transfer period of a second device of the plurality of devices (column 9, lines 20-26).

44. It would have been obvious to one skilled in the art at the time the invention was made to combine the teachings of Airy with the teachings of Eshet. The motivation to combine being, to increase the efficiency of data transfers by adding additional data segments into a predetermined queue slot, whenever there is additional space in the slot.

45. With respect to claim 34, Airy discloses the system of claim 32, wherein if the actual data transfer size exceeds the corresponding estimated future data transfer size (paragraph [0050], lines 3-8), but does not disclose replacing transfer periods with transfer periods that are less than the duration of the new data transfer period.

46. However, Eshet discloses actually updating comprises replacing the existing data transfer period of the first device in the schedule (column 7, lines 64-67; column 8, lines 1-3) with a data transfer period of a second device of the plurality of devices (column 8, lines 3-7, *updating index i*), and wherein a duration of the data transfer period of the

second device in the schedule is less than a duration of the new data transfer period of the first device (column 7, lines 62-67, where the i^{th} instance is incremented after the it is determined that the transfer period will be filled by the "second device").

47. It would have been obvious to one skilled in the art at the time the invention was made to combine the teachings of Airy with the teachings of Eshet. The motivation to combine being, to increase the efficiency of data transfers by allocating slots in a queue to data segments that effectively fit into the predetermined size of each queue slot.

48. With respect to claim 36, Airy discloses the system of claim 32, but does not disclose filling the free time slot when the data transfer size is less than estimated.

49. However, Eshet discloses if the actual data transfer size for the first device is less than the corresponding estimated transfer size for the first device so as to create a free time slot in the schedule (column 8, line 57) then said actually updating comprises filling the free time slot with a data transfer period of a second device of the plurality of devices (column 9, lines 20-26).

50. It would have been obvious to one skilled in the art at the time the invention was made to combine the teachings of Airy with the teachings of Eshet. The motivation to combine being, to increase the efficiency of data transfers by adding additional data segments into a predetermined queue slot, whenever there is additional space in the slot.

Conclusion

51. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- | | |
|---------------------|--------------------------|
| a. Mullendore et al | Pat Pub No. 2003/0026206 |
| b. Cohen et al | Pat Pub No. 2003/0117955 |

52. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BLAKE RUBIN whose telephone number is (571)270-3802. The examiner can normally be reached on M-R: 7:30-5:00.

53. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nabil El-Hady can be reached on (571) 272-3963. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

54. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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BJR

/Ario Etienne/
Supervisory Patent Examiner, Art Unit 2157